

# THE CRANES EXAMINATIONS BOARD

**"EVER FORWARD"**



## MARKING GUIDE FOR P7 STANDARD EXAMS SET 01 2025 **MATHEMATICS**



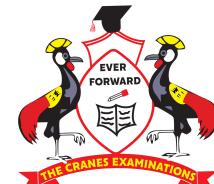
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### ABOUT THE CRANES EXAMINATIONS BOARD:

- We are located in Kansanga-Kampala on GABA ROAD just near GALAXY F.M
- We have HIRED UNEB EXAMINERS from the best performing schools. That is:-
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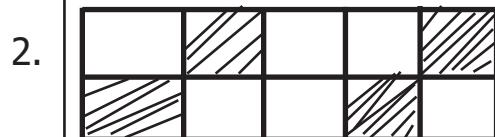
**MTC SET ONE 2025 MARKING GUIDE THE CRANES**

## SECTION:A

1.

2	0	5
X 4		
8	2	0

$5 \times 4 = 20$   
 $(4 \times 0) + 2 = 0 + 2$   
 $2 \times 4 = 8$



$$\begin{array}{r}
 \frac{2}{5} \times 10 \\
 2 \times 2 \\
 \hline
 5^1 \\
 2 \times 2 \\
 = 4
 \end{array}$$

3.

$$\begin{aligned}
 A &= S \times S \\
 0.36h &= S^2 \\
 \left(\frac{36}{100}\right)h &= S^2 \\
 \sqrt{\frac{36}{100}} &= \sqrt{S^2} \\
 \frac{6}{10} &= S \\
 0.6h &= S \\
 S &= 0.6h \\
 L &= 0.6 \text{ hectares}
 \end{aligned}$$

4.

90, 87, 89, 86, 88, 85, 87

$-3$      $+2$      $-3$      $+2$      $-3$      $+2$

Range = HV - LV  
 $= 87 - 85$   
Range = 2

5.

$$\begin{aligned}
 3x + 4y - 2x \\
 3x - 2x + 4y \\
 x + 4y
 \end{aligned}$$

6.

Two thousand	$=$	2	0	0	0
Two hundred	$=$	2	0	0	
Twenty	$+$		2	0	
			2	2	0

7.

$$\frac{3}{5} \times \frac{2}{7} = \frac{3 \times 2}{5 \times 7} = \frac{6}{35}$$

8.

$$\begin{aligned}
 1\text{kg} &= 1000\text{g} \\
 0.47\text{kg} &= 1000 \times 0.47 \\
 &= \left(\frac{47}{100} \times 1000\right)\text{g} \\
 &= 47 \times 10 \\
 &= 470\text{g}
 \end{aligned}$$

9.

Number of proper subsets =  $2^n - 1$

$2^n - 1 = 15$ $2^n - 1 + 1 = 15 + 1$ $2^n = 16$ $2^n = 2^4$ $n = 4$	<pre> graph TD     16[16] --&gt; 2L[2]     16 --&gt; 8R[8]     2L --&gt; 2LL[2]     2L --&gt; 4LR[4]     8R --&gt; 2R[2]     8R --&gt; 1R[1]     </pre>
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10.  $hr = -3, r = 4, y = 7$

$$\left(\frac{hr}{r}\right)^2 + y \quad \frac{144}{4} + \frac{7}{1}$$

$$\left(\frac{hxr}{r}\right) + y \quad \frac{144+28}{4}$$

$$\left(\frac{-3 \times 4}{4}\right)^2 + 7 \quad \frac{172}{4}$$

$$\left(\frac{-12 \times -12}{4}\right) \quad \frac{172-42}{4}$$

$$144 + \frac{7}{1} \quad = 43$$

11.  $\frac{3}{7} \times 21$  mangoes  $\frac{3}{7} \times 21$  mangoes

$$(3 \times 3)$$
 mangoes 
$$(4 \times 3)$$
 mangoes

9 mangoes 12 mangoes

12.  $\frac{2}{3} + \frac{1}{5}$  LCM = 15

$$\left( \frac{2}{3} \times 15 + \frac{1}{5} \times 15 \right)$$

$$\frac{10+3}{15} = \frac{13}{15}$$

$$\left( \frac{2}{3} \times 15 + \frac{1}{5} \times 15 \right)$$

$$\frac{(2 \times 5) + (1 \times 3)}{15} = \frac{10+3}{15}$$

$$= \frac{13}{15}$$

13. 

T	T	H	T	0
8	7	9	4	6

$$(4 \times 10) = 40$$

hundreds

Difference = 
$$\begin{array}{r} 100 \\ - 40 \\ \hline 60 \end{array}$$

14.  $(2 \times 5^1) + (4 \times 5^3) + (3 \times 5^2) + (1 \times 5^0)$

$$2 \times 5 + 4 \times 5 \times 5 \times 5 + 3 \times 5 \times 5 + 1 \times 1$$

$$10 + 20 \times 25 + 75 + 1$$

$$10 + 500 + 76$$

$$500$$

$$76$$

$$+ 10$$


---


$$586$$

15. Mean = 
$$\frac{\text{Sum of items}}{\text{Number of items}}$$

$$\frac{0+2+3+4+5}{5}$$

$$\frac{15}{5} = 3$$

16.  $S = \frac{D}{T}$

$$= \frac{30 \text{ km}}{3 \text{ hrs}}$$

$$S = 10 \text{ km/hr}$$

$D = 30 \text{ km}$   
 $T = 3 \text{ hrs}$

17.  $2q + 90^\circ = 180^\circ$

$$2q + 90^\circ - 90^\circ = 180^\circ - 90^\circ$$

$$\frac{2q}{2} = \frac{90^\circ}{2}$$

$$q = 45^\circ$$

18.

$$\begin{array}{r} 4 \ 5 \ . \ 8 \ 9 \\ + \ 0 \ . \ 1 \\ \hline 4 \ 5 \ . \ 9 \ 9 \end{array}$$

19.  $1 - \frac{3}{5}$

$$\frac{5}{5} - \frac{3}{5} = \frac{5 - 3}{5}$$

$$= \frac{2}{5}$$

Let the number be  $y$

$$\frac{2}{5} \text{ of } y = 32$$

$$5 \times \frac{2}{5} \times y = 32 \times 5$$

$$\frac{2y}{2} = \frac{32 \times 5}{2}$$

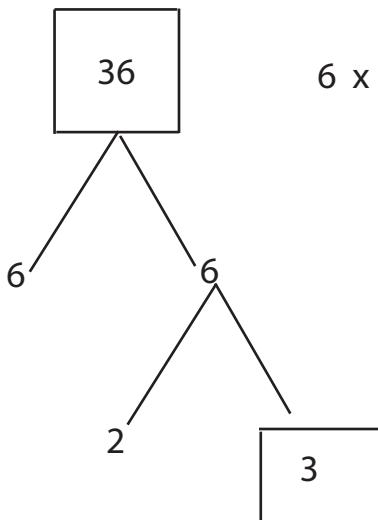
$$y = 16 \times 5$$

$$y = 80 \text{ pupils}$$

20.

36

$$6 \times 6 = 36$$



$$\begin{aligned}
 21(a) & (2y+2+y+3) - (y+3) = 12 \\
 2y+y+2+3-y-3 & = 12 \\
 3y+5-y-3 & = 12 \\
 3y-y+5-3 & = 12 \\
 2y+2 & = 12 \\
 2y+2-2 & = 12-2 \\
 2y & = 10 \\
 \frac{2y}{2} & = \frac{10}{2} \\
 y & = 5
 \end{aligned}$$

$$\begin{array}{ccc}
 b) & 2y+2 & y+3 & 2y \\
 & 2x5+2 & 5+3 & 2x5 \\
 & 10+2 & 8 & 10 \\
 & 12 & . &
 \end{array}$$

$$(y-2) = 5-2 \\ = 3$$

$$(12+8+10+2)$$

$$20 + 12$$

$$32$$

$$\begin{array}{ccc}
 22(a) & \frac{1}{4} + \frac{2}{3} & LCM = 12 \\
 & (\frac{1 \times 1 \frac{2}{2}}{4} + \frac{2 \times 1 \frac{4}{2}}{3}) & | - \frac{11}{12} \\
 & 12 & | \frac{12}{12} - \frac{11}{12} \\
 & \frac{3+8}{12} = \frac{11}{12} & = \frac{1}{12}
 \end{array}$$

Convert 40% to fraction

$$= \frac{40}{100}$$

$$\frac{4^2}{10^2} = \frac{2}{5}$$

Fraction for savings.

$$\begin{aligned}
 \frac{2}{5} \times \frac{1}{12} & \\
 \frac{1 \frac{1}{2}}{5} \times \frac{1}{12} & = \frac{1 \times 1}{5 \times 6} \\
 & = \frac{1}{30}
 \end{aligned}$$

b) Let her total income be  $y$ .

$$\frac{1}{30} \text{ of } y = \text{shs. } 90,000$$

$$\frac{y}{30} = \text{shs. } 90,000$$

$$30 \times \frac{y}{30} = \text{shs. } 90,000 \times 30$$

$$y = \text{shs. } 1800,000$$

Bawubie	Kasakya.
$3x+6$	$x+6$

$$3x+6 - x+6 = 28 \text{ years.}$$

$$3x-x+6+6 = 28 \text{ years.}$$

$$2x + 12 = 28 \text{ years.}$$

$$2x+12-12 = 28-12 \text{ years.}$$

$$2x = 16 \text{ years.}$$

$$\frac{2x}{2} = \frac{16 \text{ years}}{2}$$

$$x = 8 \text{ years.}$$

$$\text{Kasakya} = (x+6) \text{ years.}$$

$$(8+6) \text{ years.}$$

$$14 \text{ years.}$$

(b)

$$3x + 15$$

$$3 \times 8 + 15$$

$$(24 + 15) \text{ ans.}$$

$$39 \text{ ans.}$$

$$24 \text{ or } (2 \times 4) + (1 \times 4) \neq (1 \times 2) + (0 \times 2) + (1 \times 2) + (1 \times 2)$$

$$2 \times 4 + x \times 1 = 1 \times 2 + 2 \times 2 + 0 + 1 \times 2 + 1 \times 1$$

$$8 + x = 8 + 2 + 1$$

$$8 + x = 11$$

$$8 - 8 + x = 11 - 8$$

$$x = 3$$

(b)

2	4	$\frac{8}{3}$ five	$(5+3)-5$
2	5	five	$8-3=5$
1	2	3 five	$4-2=2$ .

25

$$\begin{aligned} & 3(a+4) - 2(2a-4) = 8 \\ & 3a+12 - 4a - 8 = 8 \\ & 3a - 4a + 12 - 8 = 8 \\ & -a + 4 = 8 \\ & -a + 4 - 4 = 8 - 4 \\ & -a = 4 \\ & \frac{-a}{-1} = \frac{4}{-1} \\ & a = -4 \end{aligned}$$

(b)

$$\frac{12}{x+4} = 2$$

$$\frac{12}{x+4} \times x+4 = 2(x+4)$$

$$12 = 2a + 8$$

$$12 - 8 = 2a + 8 - 8$$

$$4 = 2a$$

$$\frac{4}{2} = \frac{2a}{2}$$

$$2 = a$$

$$\begin{aligned}
 27(a) 3w + 10^\circ + 2w + 3w + 20^\circ &= 180^\circ \\
 3w + 2w + 3w + 10^\circ + 20^\circ &= 180^\circ \\
 8w + 30^\circ &= 180^\circ \\
 8w + 30^\circ - 30^\circ &= 180^\circ - 30^\circ \\
 8w &= 160^\circ \\
 \frac{8w}{8} &= \frac{160^\circ}{8} \\
 (ii) w &= 20^\circ
 \end{aligned}$$

(b)  $\angle XYZ$

$$2w + 20^\circ$$

$$2 \times 20^\circ + 20^\circ$$

$$40^\circ + 20^\circ$$

$$60^\circ$$

28(a)

$$\begin{array}{r}
 \text{TTH} \quad \text{TH} \quad \text{H} \quad \text{T} \quad 0 \\
 9 \quad 4 \quad 5 \quad 2 \quad 8
 \end{array}$$

$$(2 \times 10) = 20$$

$$(4 \times 1000) = 4000.$$

The value of 4 is 4000.

(b)

$$\begin{array}{r}
 \text{TTH} \quad \text{TH} \quad \text{H} \quad \text{T} \quad 0 \\
 9 \quad 4 \quad 5 \quad 2 \quad 8
 \end{array}$$

$$(2 \times 10) = 20,$$

$$(5 \times 100) = 500$$

$$\begin{aligned}
 \text{Quotient} &= \frac{500}{20} \\
 &= 25.
 \end{aligned}$$

(c) Ninety thousand, five hundred twenty eight.

Let the number be  $y$ .

$$\begin{aligned}
 y &= 0.3636 \dots \\
 100y &= 0.3636 \times 100 \dots \\
 100y &= 36.3636 \\
 y &= 0.3636 \dots \\
 99y &= 36 \\
 \frac{99y}{99} &= \frac{36}{99} \\
 y &= \frac{36}{99} \\
 y &= \frac{36-12-4}{99-22-11} \\
 y &= \frac{4}{11}.
 \end{aligned}$$

(b)

$$3x^2 - yw.$$

$$3x^2 - y \times w.$$

$$3 \times 4^2 - 4 \times 6.$$

$$3 \times 4 \times 4 - 24.$$

$$3 \times 16 - 24.$$

$$48 - 24.$$

$$= 22$$

$$3a^2 w = 15$$

$$ii) x = -6.$$

$$iii) y = +11$$

$$-6 + 11 = +5.$$

$$-6 + 11 = +5$$

$$31(a) \frac{(2a-4)}{7} = \frac{(2a+6)}{7}$$

$$2a - 4 = 2a + 6$$

$$2a - 2a - 4 = 2a - 2a + 6$$

$$-4 = 6$$

$$-4 + 4 = 6 + 4$$

$$a = 10m.$$

$$(b) (2a - 5)m.$$

$$(2 \times 10 - 5)m.$$

$$(20 - 5)m.$$

$$15m.$$

$$A = \frac{1}{2} \times b \times h.$$

$$= \frac{1}{2} \times 15m \times 8m$$

$$= \frac{1}{2} \times 15m \times 8m^4$$

$$1 \times 15m \times 4m$$

$$A = 60m^2$$

$$32(a) k + 3 + 4 + 1 = 10.$$

$$k + 8 = 10.$$

$$k + 8 - 8 = 10 - 8.$$

$$k = 2.$$

b) Mean =  $\frac{\text{Sum of data}}{\text{Number of data}}$

$$= \frac{(60 \times 3) + (70 \times 4) + (80 \times 2) + (90 \times 1)}{3 + 4 + 2 + 1}$$

$$= \frac{180 + 280 + 160 + 90}{10}$$

$$\frac{710}{10}$$

$$= 71$$

$$\therefore \text{Mean} = 71.$$

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